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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/074,336	02/12/2002	Naoya Yamazaki	FUJX 19.423	5703

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EXAMINER

CHERVINSKY, BORIS LEO

ART UNIT PAPER NUMBER

2835

DATE MAILED: 02/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/074,336

Applicant(s)

YAMAZAKI ET AL.

Examiner

Boris L. Chervinsky

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

The Examiner acknowledges the submission of the amendment filed on 02/06/03.

Claims 1-42 are amended to overcome §112 rejection. No new claims have been added. Thus, claims 1-42 are pending in the instant application.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

2. Claims 1, 2, 4, 5, 7, 8, 10, 11, 13, 14, 16, 17, 25, 26, 28, 29, 31, 32, 34, 35 are rejected under 35 U.S.C. 102(b) as being anticipated by Romero et al.

Romero discloses a thermal diffuser structure 10 comprising a plate shaped structure 51 having a wall 11 and being bonded to an electronic component 58 and thermally coupled to the component, a plurality of protrusions are surrounded by the wall forming channels, heat medium confined and circulates in the structure, the diffuser having a heat medium injection path 13 formed in the wall, the channels are formed more

densely in the area where heat generating components are located and formed uniformly in the area distant from the components, the protrusions are large enough to form the channels on the top of the diffuser and having “partly contracted pillar” or “wage” shape, a member 40 is used to fasten thermal diffuser to the electronic component and holes 15 are made in protrusions to couple the thermal diffuser with the case.

3. Claims 3, 6, 9, 12, 15, 18, 21, 24, 30, 33, 36 are rejected under 35 U.S.C. 102(e) as being anticipated by Snyder et al.

Snyder discloses a thermal diffuser comprising a frame 21 integrally formed with case of an electronic component 21a, 21b, a plurality of protrusions disposed on the inner wall of the frame forming a channel, cooling medium circulates inside the frame, an injection path provided to inject the cooling fluid into the frame, the density of the protrusions is higher in close proximity to the heat generating device and uniform at the distal end from that device, the protrusions are large enough to form the channels on the top of the diffuser and having “partly contracted pillar” or “wage” shape, capillary flow of cooling medium facilitated.

4. Claims 37, 38 and 41 are rejected under 35 U.S.C. 102(b) as being anticipated by DiGiacomo et al.

DiGiacomo discloses a radiator comprising a thermal diffuser having a plate-shaped structure or housing coupled with the case of an electronic component 23, a plurality of protrusions extending from an inner wall of the housing forming a channel, a cooling

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medium is confined in the housing and radiating member 58 coupled with an outer wall of the housing.

5. Claims 39 and 42 are rejected under 35 U.S.C. 102(e) as being anticipated by Snyder et al.

Snyder discloses a radiator comprising thermal diffuser including a frame 21 integrally formed with case of an electronic component 21a, 21b, a plurality of protrusions disposed on the inner wall of the frame forming a channel, cooling medium circulates inside the frame, a radiating member 21b thermally coupled to an outer wall of the frame.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 19, 20, 22, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Romero et al. in view of DiGiacomo et al.

Romero discloses the claimed invention, as applied to claims 1 and 2, except having capillary flow of the cooling medium. DiGiacomo discloses the thermal diffuser utilizing the capillary flow. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the capillary flow as disclosed by DiGiacomo in the structure disclosed by Romero to provide self-contained cooling arrangement.

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8. Claims 3 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over DiGiacomo et al.

DiGiacomo discloses the claimed invention except having holes in all or part of the plurality of protrusions for coupling the diffuser to the component. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have holes in the protrusions to accommodate O-rings 46 in order to couple and seal the diffuser on the component.

Response to Arguments

1. Applicant's arguments filed 02/06/03 have been fully considered but they are not persuasive. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "Romero is not configured as a heat pipe" or "does not have the invention's embossing or tight thermal coupling with the heat source") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Applicants are free to use their own terminology but the term "a web" in a context of claims 1-3 is interpreted broadly by the Examiner since the term has not been clearly defined in the specification and/or in the claims as being related to a heat pipe structure. The prior art references cited in the US PTO 892 form disclose cooling devices using capillary attraction as method of circulating cooling media in micro-channel or wicking arrangements, therefore this argument does not resolve the patentability issue.

Applicant's argument that the Snyder reference does not show the injection path to inject the cooling fluid is not persuasive since such injection opening must be present as inherent feature of the device and has been shown in many prior art references previously cited.

Examiner agrees with applicant's assessment of the prior art used in the rejection indicating certain differences, but these differences are irrelevant in view of the structure as it is claimed.

Conclusion

2. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Boris L. Chervinsky whose telephone number is 703-308-5429. The examiner can normally be reached on 8-5.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren E. Schuberg can be reached on 703-308-4815. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-5115.

BORIS CHERVINSKY
PRIMARY EXAMINER

A handwritten signature in black ink, appearing to read "Boris Chervinsky", with a long, sweeping horizontal stroke at the end.

February 21, 2003